

## California Monthly Climate Summary September 2008

### **Weather Highlights**

September 2008 closed out the 2008 water year with yet another month of above average temperatures and below average precipitation. According to the Western Region Climate Center's [California Climate Tracker](#), the monthly average temperature was 68.3°F which is 1.2°F above the long-term average temperature for the state. With a statewide average of 0.10 inches, precipitation for September was 21.5% of the long term average. For the water year, statewide precipitation was 76.9% of average while the water year average temperature was 1.0°F above average. This ranks Water Year 2008 as the 34<sup>th</sup> driest year and the 14<sup>th</sup> warmest year out of 113 years of data. A plot of the water year's deviations by month is shown at the end of the summary.

During the first week of September high pressure provided warm and dry conditions for California. This pattern continued into the second week with some cooling provided by a passing low pressure system. Dry conditions led to very low relative humidities and cooler than average minimum temperatures. Ridging during the first part of the third week of the month brought warmer than average temperatures to parts of the Central Valley and coastal regions. A couple of storm systems during the latter part of the week brought precipitation to parts of California. Seasonable weather continued until the end of the month with the marine layer increasing and cooling sea breezes by the end of the period.

Preliminary records, reported on the National Weather Service Record Event Report, show that statewide there were 29 temperature records tied or broken, and zero precipitation records tied or broken for the month. Of the 29 temperature records, 21 were for new high maximums. Salinas tied a low minimum record set in 1932 and 1982 with a minimum temperature reading of 45°F. Montague and Eureka each set new low minimum records on September 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup>. The lowest reading was reached in Montague with a 38°F value on the 3<sup>rd</sup>. On the other end of the spectrum, Thermal set a new daily maximum record with a 115°F reading on the 6<sup>th</sup> breaking the old record of 113°F set in 1986. For water year 2008 there were 759 temperature records tied or broken and 72 precipitation records. May produced the most temperature records with 194 while January produced the most precipitation records with 33. Plots of the monthly distribution of records for the water year is shown at the end of the summary.

For the California Data Exchange Center's (CDEC) network of temperature gages used in this report, 29 stations recorded a minimum temperature below freezing, and 73 stations recorded a maximum temperature above 100°F. Statewide extremes from the CDEC network of temperature gages are shown below. Also shown are the monthly average extremes from the CIMIS network. A table of regional average minimum, mean, and maximum temperatures from the CDEC and CIMIS networks is also shown.

Precipitation in September fell short of normal again. The largest amount of precipitation recorded in the CDEC precipitation gages for September 2008 was Oceanside Marina which recorded 0.50 inches. This is 147% of average for this site for September. At the other end of the spectrum, 62 stations recorded no rain for the month. For the CIMIS network, Westmorland North in Imperial County topped the precipitation charts with 0.59 inches for the month. Ninety-three stations in the CIMIS network recorded zero for precipitation for the month. The 8-Station Index for northern California precipitation recorded 0.01 inches in September. On average 0.9 inches of precipitation is recorded for the 8-Station index in September. This is the driest March-September period for the 8-Station Index in the period on record with only 3.46 inches recorded. Statewide, the average precipitation for September was 2.85% of the long-term average based on the California Data Exchange Center (CDEC) gages. Precipitation percentages by region from the CDEC gages are shown in a table at the end of this document. For the water year, the 8-station index recorded 34.89 inches of precipitation. This is the 15<sup>th</sup> driest year in the 88 years of record.

The Drought Monitor maps can be found on the National Drought Mitigation Center's (NDMC) website <http://drought.unl.edu/dm/>. These maps are largely a reflection of precipitation and soil moisture deficit estimates. As of September 30, 2008, the California depiction has 0% of the state drought free, 4.1% listed in the D0 – Abnormally Dry, 40.7% listed in the D1 – Moderate Drought, 53.1% listed in the D2 – Severe Drought category, and 2.1% listed in the D3 – Extreme Drought category. Rangeland conditions are the major impact of concern. Maps are updated weekly.

The U.S. Seasonal Drought Outlook for October through December from NOAA depicts California with persisting drought conditions across most of the state with improvement possible for the North Coast area based largely on climatology. Updates are provided twice per month. Maps and information can be found at [http://www.cpc.noaa.gov/products/expert\\_assessment/seasonal\\_drought.html](http://www.cpc.noaa.gov/products/expert_assessment/seasonal_drought.html).

The end of September marks the end of the 2008 water year. Water supply information for California can be found at [http://cdec.water.ca.gov/water\\_supply.html](http://cdec.water.ca.gov/water_supply.html). A Historical listing of water year categories for both basins can be found at <http://cdec.water.ca.gov/cgi-progs/iodir/WSIHIST>.

### **ENSO Conditions and Long-Range Outlooks**

The El Niño/Southern Oscillation (ENSO) is now in a neutral pattern. Some tropical atmospheric conditions reflect lingering La Nina conditions as sea surface temperature anomalies change. Equatorial sea surface temperature anomalies for the tropical Pacific for September varied between 1.0°C and -0.4°C. The July through September 3-month running mean of the Ocean Niño Index was 0.0. Most statistical and dynamical models forecast ENSO neutral conditions through the end of 2008. More information can be found at the Climate Prediction Center's web site: [http://www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/enso\\_advisory/](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/)

Updates are posted weekly. The latest three month outlook (October through December) from NOAA indicates equal chance for above or below normal temperatures for California with the exception of the southeastern desert and east of the Sierra Nevada (above normal) parts of the state. For precipitation, equal chance for above or below normal conditions applies across the entire state with the exception of the southern part of the state which is expected to have below normal precipitation. Outlook plots and discussions can be found at <http://www.wrcc.dri.edu/longrang/>. General weather information of interest can be found at <http://www.noaawatch.gov/>. For anomaly information please see [http://www.wrcc.dri.edu/anom/cal\\_anom.html](http://www.wrcc.dri.edu/anom/cal_anom.html).

### **Agricultural Data**

In September, wheat and barley fields were harvested as was the fifth cutting of alfalfa. Alfalfa seed fields were also being harvested. Cotton defoliation began. Rice field harvest began in September as well. Harvest is on schedule for California grapes. Several varieties of stone fruits were harvested as were lemons. Olive harvest began with reports of a light crop. Valencia orange harvest remained slow. Almond and walnut harvests continued with reports of heavy yields. Pistachios were also being harvested in parts of the state. Farmers' market vegetables grew well with harvests showing good quality. Fall broccoli was planted in Fresno County and fall lettuce was thinned. Pumpkin plants showed good signs of growth and fruit sizing. Very poor grazing conditions continued in most areas of the state as summer transitions to fall. Livestock were receiving supplemental feeding and fire danger remains high. Concerns about winter pasture conditions led to herd reductions. Irrigated pastures were in good condition. Fall beef-cow calving started. Cooler weather improved milk production and was a positive factor for poultry. Sheep were grazing on harvested fields and idled farmland. For further crop and livestock information see <http://www.nass.usda.gov/index.asp>

### **Other Climate Summaries**

[California Climate Tracker](#) (new product of Western Region Climate Center)  
[Golden Gate Weather Service Climate Summary](#)  
[NOAA Monthly State of the Climate Report](#)

### **Statewide Extremes (CDEC)**

High Temperature – 115°F (Rice Valley and Squaw Lake, Colorado River Desert)  
Low Temperature – 22°F (Charlotte Lake, Kings River)  
High Precipitation – 0.50 inches (Oceanside Marina, South Coast)  
Low Precipitation – 0 inches (62 stations)

### **Statewide Extremes (CIMIS)**

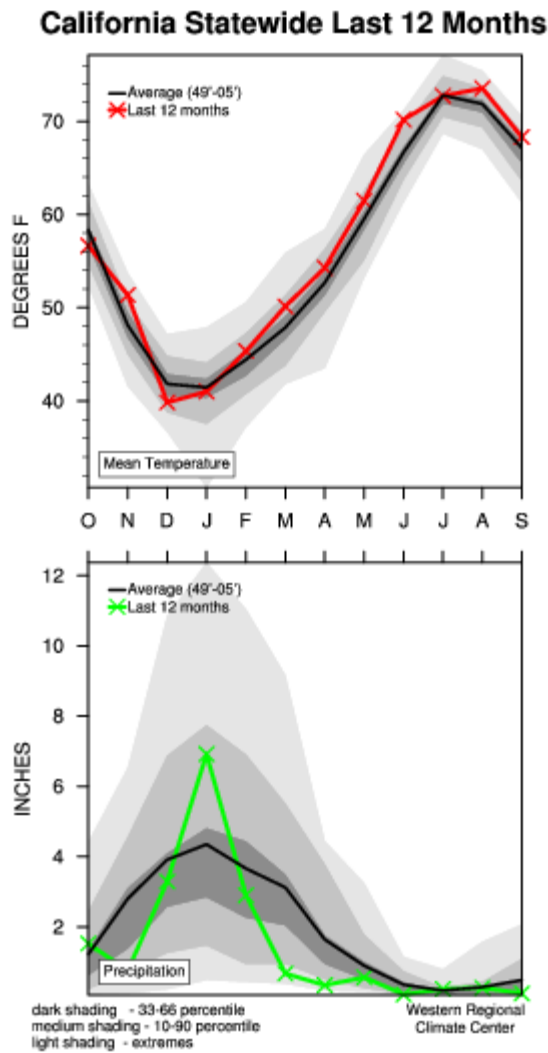
High Average Maximum Temperature – 105°F (Salton Sea East, Imperial County)  
Low Average Minimum Temperature – 34.2°F (Alturas, Modoc County)  
High Precipitation – 0.59 inches (Westmorland North, Imperial County)  
Low Precipitation – 0 inches (93 stations)

### **Statewide Precipitation Statistics**

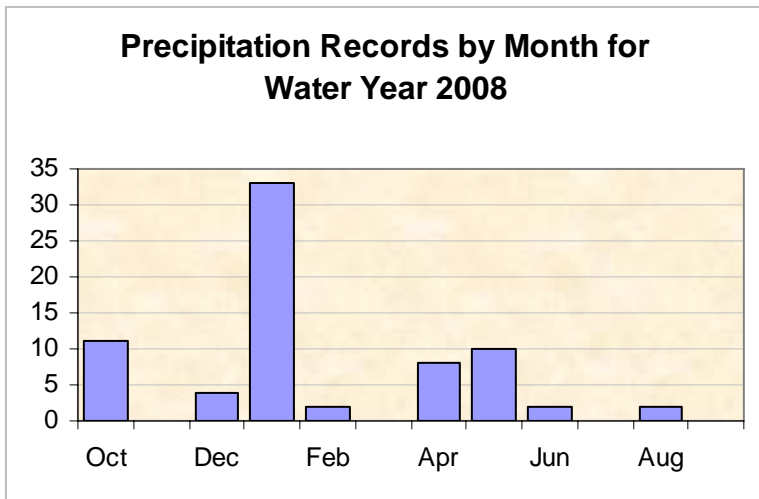
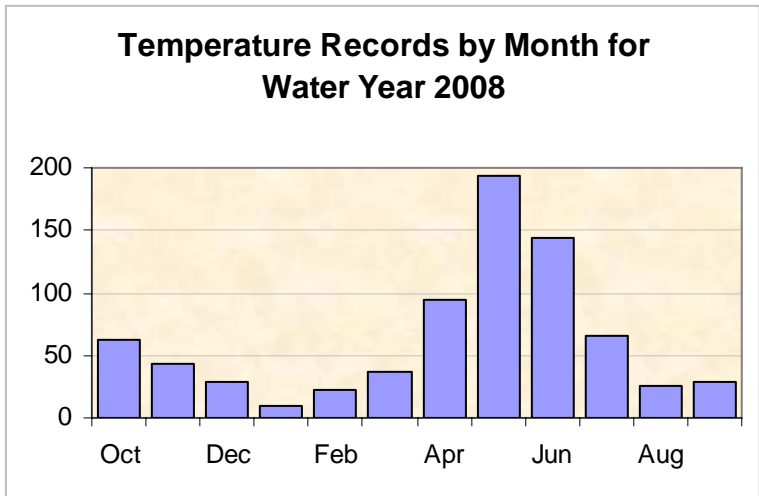
<b>Hydrologic Region</b>	<b>Region Weight</b>	<b>Basin Reporting</b>			<b>Stations Reporting</b>			<b>% of Historic Average</b>	
		<b>Basins</b>	<b>Sep</b>	<b>Oct-Sep</b>	<b>Stations</b>	<b>Sep</b>	<b>Oct-Sep</b>	<b>Sep</b>	<b>Oct-Sep</b>
North Coast	0.27	5	4	3	17	5	4	4.7%	87%
SF Bay	0.03	3	3	3	6	5	4	0.0%	85%
Central Coast	0.06	5	4	3	10	5	4	0.9%	91%
South Coast	0.06	5	5	5	15	11	7	8.4%	78%
Sacramento River	0.26	10	6	5	43	16	14	0.0%	73%
San Joaquin River	0.12	8	5	5	27	11	7	0.7%	74%
Tulare Lake	0.07	5	3	3	27	9	9	0.0%	72%
North Lahontan	0.04	6	5	5	14	9	7	3.4%	76%
South Lahontan	0.06	5	2	2	14	2	2	0.0%	62%
Colorado River	0.03	2	1	1	6	3	1	26.6%	65%
Statewide Weighted Average	1	54	38	35	179	76	59	2.85%	77.8 %

### **Statewide Mean Temperature Data by Hydrologic Region (degrees F)**

<b>Hydrologic Region</b>	<b>No. Stations</b>	<b>Minimum</b>	<b>Average</b>	<b>Maximum</b>
North Coast	30	39.9	64.2	91.3
SF Bay	19	49.2	64.8	88.6
Central Coast	33	51.2	65.8	82.7
South Coast	66	53.1	72.6	95.9
Sacramento	74	44.7	68.4	93.3
San Joaquin	68	47.3	68.2	90.5
Tulare Lake	16	40.8	62.0	84.2
North Lahontan	15	33.1	57.7	79.6
South Lahontan	19	42.6	63.2	83.8
Colorado River Desert	23	67.8	86.4	104.4
Statewide Weighted Average	363	44.6	66.6	90.4



Plot of monthly temperature and precipitation values compared to long-term average for water year 2008 data for California from Western Region Climate Center's California Climate Tracker.



Plots of temperature and precipitation records by month for water year 2008